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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,872	01/23/2001	Rina Aharoni	60772-PCT-US/JPW/GJG/CSN	3801

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EXAMINER	
VANDERVEGT, FRANCOIS P	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,872	AHARONI ET AL.	
	Examiner	Art Unit	
	F. Pierre VanderVegt	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16,19,20,32-39 and 157-165* is/are pending in the application.

4a) Of the above claim(s) *157-165* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16,19,20 and 32-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This application is a continuation of PCT Application Serial Number PCT/US99/16747, which claims the benefit of the filing date of provisional application 60/093,859, and claims the benefit of the filing date of provisional application 60/101,825, and claims the benefit of the filing date of provisional application 60/102,960, claims the benefit of the filing date of provisional application 60/106,350, and claims the benefit of the filing date of provisional application 60/108,184.

Claims 1-15, 17, 18, 21-31 and 40-156 have been canceled.

Claims 16, 19-20, 32-39 and 157-165 are currently pending.

Claims 157-165 stand as withdrawn, as they are not drawn to the same invention as that of Group I, as elected by Applicant with traverse in the paper filed June 6, 2002.

Claims 16, 19-20 and 32-39 are the subject of examination in the present Office Action.

1. In view of Applicant's amendment filed December 3, 2004 no outstanding ground of rejection is maintained. Accordingly, Applicant's amendment filed December 3, 2004 was FULLY RESPONSIVE to the outstanding Office Action as the record stood at that time.

However, further review of the claimed invention has necessitated the application of the following NEW GROUNDS of rejection.

The Examiner concurs with the summary of the March 10, 2005 telephone conference as summarized by Applicant in the paper filed March 11, 2005.

In view of the new grounds of rejection presented here, this Office Action is made NON-FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 16, 19, 20 and 32-39 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a pharmaceutical composition comprising a pharmaceutically acceptable carrier and terpolymers of randomly polymerized tyrosine, alanine and lysine or said pharmaceutical composition in an amount effective to treat multiple sclerosis, does not reasonably

provide enablement for the broad recitation of treating an autoimmune disease or for the diseases recited in claims 34-39 other than multiple sclerosis. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Claim 16 broadly recites a pharmaceutical composition for the treatment of autoimmune disease. A pharmaceutical composition is understood in the art as being a composition specifically made for the in vivo treatment of a subject. Claim 34 broadly recites all B cell mediated autoimmune diseases and claim 35 broadly recites all T cell mediated autoimmune diseases. Claim 36 broadly recites any autoimmune arthritic condition while claim 37 broadly recites any autoimmune demyelinating disease and claim 38 broadly recites any inflammatory disease that is autoimmune. In addition to multiple sclerosis, claim 39 recites a number of autoimmune diseases for treatment by the claimed pharmaceutical composition.

However, while the instant specification is enabled for the recitation of a pharmaceutical composition comprising the recited terpolymers and a pharmaceutically acceptable carrier, the only autoimmune disease that the instant specification is enabled for reciting in the claims is multiple sclerosis.

The effectiveness of treating a response to an autoantigen is dependent on several factors, the most critical of which is whether the therapy can be used to treat an ongoing autoimmune response or whether it is only effective prophylactically (Tisch et al, Tisch, R et al. Proc. Nat. Acad. Sci. (USA). [1994] 91:437-438; U1 on form PTO-892, page 437, column 2, last paragraph in particular; newly cited). Typically, an autoimmune disease is diagnosed only after significant tissue damage has already occurred. Administration of antigen after pathogenic T cells have been activated may have an exacerbating effect on the disease, rather than a tolerogenic one. Another problem during the treatment of autoimmune diseases is determinant spreading during the course of the disease. The Tisch et al reference also teaches that "the high degree of specificity required for the process of clonal deletion/anergy may be limiting when dealing with diseases such as MS, IDDM, and RA, in which there are responses to several autoantigens [...] and the critical inciting autoantigen(s) is not known" (page 437, third full paragraph of column 3 in particular). The breadth of Applicant's claim is such that it recites a composition for the treatment of unrelated autoimmune diseases with a random-sequenced peptide terpolymer of a similar amino acid composition to myelin basic protein (MBP), an antigen related to the etiology of multiple sclerosis (MS) and the animal model experimental allergic encephalomyelitis (EAE). The specification demonstrates that prophylactic incubation of cells with the terpolymer inhibits T cell proliferation in response to MBP (Example 6) and inhibits a collagen-specific T cell response (Example 9). The specification does not, however, indicate that any other autoimmune diseases could be successfully

treated with the terpolymer of the invention, as in each case the examples show only prophylactic success in inhibiting a response of a previously characterized T cell line to a single well-defined antigen and does not address the effect of an ongoing autoimmune condition where reactivity is directed to multiple antigenic epitopes. For example, Example 10 of the instant specification shows that Copolymer 1 inhibits activation of T cells reactive with a single antigenic epitope of the acetylcholine receptor (AChR). However, myasthenia gravis is well known by practitioners to involve reactivity to a plurality of antigenic epitopes on the AChR, not a single epitope, and that the epitopes recognized can vary greatly between MG patients.

Furthermore, while Guillan-Barre and MS are both autoimmune demyelinating diseases, the cells under attack are different and the antigenic protein is not the same.

Accordingly, based upon the lack of guidance in the instant specification, an artisan would not be able to predict any specific autoimmune diseases that would be treatable with a pharmaceutical composition of the present invention.

In view of the nature of the invention, the state of the art, the limited working examples, the unpredictability of the art, the lack of sufficient guidance in the specification and the breadth of the claims, it would take undue trials and errors to practice the claimed invention and this is not sanctioned by the statute.

Claim 16 would be allowable if amended to recite --A pharmaceutical composition comprising a mixture of terpolymers and a pharmaceutically acceptable carrier, wherein each terpolymer consists of randomly polymerized tyrosine, alanine and lysine.-- Furthermore, it is suggested that claims 34-38 be canceled and claim 39 amended to recite only multiple sclerosis.

Conclusion

3. No claim is allowed.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Pierre VanderVegt whose telephone number is (571) 272-0852. The examiner can normally be reached on M-Th 6:30-4:00 and Alternate Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

F. Pierre VanderVegt, Ph.D.
Patent Examiner
March 3, 2006

DAVID SAUNDERS
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ART UNIT 182 1644